Missouri Science

Engineering, Technology, and Application of Science: Grades 9-12

Adopted 2016

Engineering, Technology, and Application of Science

1 Engineering Design ETS1

A Defining and Delimiting Engineering Problems ETS1.A

1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. 9-12.ETS.A-1

2 Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. 9-12.ETS.A-2

B Developing Possible Solutions ETS1.B

3 Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. 9-12.ETS.B-3

4 Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. 9-12.ETS.B-4